

**Abstract**

A dispersion compensator is provided that includes an input port 102 for receiving a WDM optical signal and a dispersion compensating element 110 coupled to the input port for substantially compensating the WDM optical signal for dispersion that has accumulated along an external transmission path. The dispersion compensator also includes an output port 104 for directing the dispersion compensated WDM optical signal to an external element and a dynamic power controller 106, 108, 112, 114, 116 for maintaining a total power of the WDM signal below a prescribed level prior to receipt of the WDM optical signal by the dispersion compensating element.